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09/882,193	06/13/2001	Stephen Alexander Empedocles	019916-003810US	9111

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TOWNSEND AND TOWNSEND AND CREW, LLP
TWO EMBARCADERO CENTER
EIGHTH FLOOR
SAN FRANCISCO, CA 94111-3834

EXAMINER

FORMAN, BETTY J

ART UNIT	PAPER NUMBER
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1634

DATE MAILED: 07/25/2002

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/882,193

Applicant(s)

EMPEDOCLES ET AL.

Examiner

BJ Forman

Art Unit

1634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) Z.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: The first paragraph incorrectly states, "This application is a continuation-in-part of U.S. Patent Application Serial Number 01/05164 filed on February 16, 2001". According to papers filed with the instant application, this application is a continuation-in-part of U.S. Patent Application Serial Number 09/784,866 filed on February 15, 2001

Appropriate correction is required.

Priority

2. Applicant's claim for domestic priority under 35 U.S.C. 119(e) is acknowledged. However, the Provisional Application 60/182,844 filed 16 February 2000 upon which priority is claimed does not provide adequate support under 35 U.S.C. 112 for claims 3-16 and 18 because the '844 application does not disclose a method comprising steps of transcribing the target, conserved-region specific primers, biotinylated primers, binding the target to a substrate and quantum dots attached to oligonucleotide tag. As such, the '844 application does not provide adequate support for claims 3-16 and 18 of this application. The Provisional Application 60/13/2000 filed 13 June 2000 provides adequate support under 35 U.S.C. 112 for claims 1-18. The effective filing date of Claims 3-16 and 18 is the filing date of Provisional Application 60/13/2000 i.e. 13 June 2000. The effective filing date of Claims 1 and 2 is the filing date of the '844 application i.e. 16 February 2000.

Information Disclosure Statement

3. The International Search Report and the references listed on the 1449 received 25 March 2002 have been reviewed and considered.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:
- The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
- a. Claims 1-16 are indefinite in Claim 1 for the recitation "wherein the detection of fluorescence in the sample indicates the presence of at least one target nucleic acid sequence" because "indicates" is a non-specific relational term. Therefore the relationship between the fluorescence and target sequence is undefined. The recitation is further indefinite because "indicates" lacks proper antecedent basis in the "detecting" in the preamble of the claim. It is suggested that Claim 1 be amended to clarify and provide proper antecedent basis e.g. replace "indicates" with "detects".
- b. Claim 5 is indefinite for the recitation "the primer comprises a biotinylated primer" because it is unclear whether the primer comprises a second primer. It is suggested that the claim be amended to clarify as define in the specification.
- c. Claims 15 and 16 are indefinite in Claim 15 for the recitation "scanning the substrate with a solution capable of detecting fluorescence emitted by a single quantum dot" because it is

Art Unit: 1634

unclear whether the recitation is a method step of detecting a single quantum dot. It is suggested that Claim 15 be amended to clarify e.g. replace "capable of detecting" with "to detect".

d. Claims 17 and 18 are each indefinite for the recitation "wherein the detection of fluorescence in the sample indicates the presence of at least one target nucleic acid sequence" because "indicates" is a non-specific relational term. Therefore the relationship between the fluorescence and target sequence is undefined. The recitation is further indefinite because "indicates" lacks proper antecedent basis in the "detecting" in the preamble of the claim. It is suggested that Claims 17 and 18 be amended to clarify and provide proper antecedent basis e.g. replace "indicates" with "detects".

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Art Unit: 1634

7. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Weiss et al (U.S. Patent No. 5,990,479, issued 23 November 1999).

Regarding Claim 1, Weiss et al disclose a method of detecting the presence of at least one target nucleic acid sequence (i.e. detectable substance) in a sample comprising: labeling at least one target nucleic acid sequence with at least one quantum dot; and detecting the labeled target nucleic acid by detecting fluorescence emitted by the quantum dot wherein detection of fluorescence in the sample indicates the presence of at least one target nucleic acid sequence, wherein the labeling is via bonding of the nucleic acid affinity molecule to its complementary sequence (Column 6, lines 55-65, Claims 20-38 and Fig. 3).

8. Claims 1, 2 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Castro et al (U.S. Patent No. 6,114,038, filed 11 August 1999).

Regarding Claim 1, Castro et al disclose a method of detecting the presence of at least one target nucleic acid sequence in a sample comprising: labeling at least one target nucleic acid sequence with at least one quantum dot; and detecting the labeled target nucleic acid by detecting fluorescence emitted by the quantum dot wherein detection of fluorescence in the sample indicates the presence of at least one target nucleic acid sequence, wherein the labeling of the target sequence is via hybridization of the nanocrystal-labeled oligonucleotide probe to its complementary sequence (Column 11, lines 18-49 and Claim 36).

Regarding Claim 2, Castro et al disclose the method further comprising quantitating the target sequence by analyzing the detected emitted fluorescence (Column 13, lines 16-21 and Claim 37).

Art Unit: 1634

Regarding Claim 17, Castro et al disclose a method of detecting the presence of at least one target nucleic acid sequence in a sample comprising: labeling at least one target nucleic acid sequence with at least one quantum dot; detecting the labeled target nucleic acid by detecting fluorescence emitted by the quantum dot wherein detection of fluorescence in the sample indicates the presence of at least one target nucleic acid sequence; and quantitating the target sequence by analyzing the detected emitted fluorescence (Column 11, lines 18-49, Column 13, lines 16-21 and Claim 37) wherein the labeling of the target sequence is via hybridization of the nanocrystal-labeled oligonucleotide probe to its complementary sequence.

9. Claims 1-3 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Weiss et al (U.S. Patent No. 6,207,392 B1, filed 1 March 1999).

Regarding Claim 1, Weiss et al disclose a method of detecting the presence of at least one target nucleic acid sequence (i.e. detectable substance) in a sample comprising: labeling at least one target nucleic acid sequence with at least one quantum dot; and detecting the labeled target nucleic acid by detecting fluorescence emitted by the quantum dot wherein detection of fluorescence in the sample indicates the presence of at least one target nucleic acid sequence, wherein the labeling is via bonding of the nucleic acid affinity molecule to its complementary sequence (Column 4, lines 27-47 and Claim 114).

Regarding Claim 2, Weiss et al disclose the method further comprising quantitating the target sequence by analyzing the detected emitted fluorescence (Column 19, lines 41-48 and Claim 127).

Regarding Claim 3, Weiss et al disclose the method further comprising transcribing the target nucleic acid sequence i.e. PCR (Column 25, line 62-Column 26, line 48).

Art Unit: 1634

Regarding Claim 17, Weiss et al disclose a method of detecting the presence of at least one target nucleic acid sequence in a sample (i.e. detectable substance) in a sample comprising: labeling at least one target nucleic acid sequence with at least one quantum dot; and detecting the labeled target nucleic acid by detecting fluorescence emitted by the quantum dot wherein detection of fluorescence in the sample indicates the presence of at least one target nucleic acid sequence; and quantitating the target sequence by analyzing the detected emitted fluorescence, wherein the labeling is via bonding of the nucleic acid affinity molecule to its complementary sequence (Column 4, lines 27-47 , Column 19, lines 41-48 and Claims 114 and 127).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 4-14 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weiss et al (U.S. Patent No. 6,207,392, filed 1 March 1999) and Söderlund et al (U.S. Patent No. 6,013,431, filed 2 December 1993) in view of Chan et al (Science, 25 September 1998, 281: 2016-2018).

Regarding Claim 4, Weiss et al teach a method of detecting the presence of at least one target nucleic acid sequence (i.e. detectable substance) in a sample comprising: labeling at least one target nucleic acid sequence with at least one quantum dot; and detecting the labeled

Art Unit: 1634

target nucleic acid by detecting fluorescence emitted by the quantum dot wherein detection of fluorescence in the sample indicates the presence of at least one target nucleic acid sequence, wherein the labeling is via bonding of the nucleic acid affinity molecule to its complementary sequence (Column 4, lines 27-47 and Claim 114) and further comprising transcribing the target nucleic acid sequence i.e. PCR (Column 25, line 62-Column 26, line 48) but they do not specifically teach the transcribing provides a polymorphic region of DNA. However, transcribing a target sequence via PCR to produce polymorphic regions of DNA was well known and routinely practiced in the art at the time the claimed invention was made as taught by Söderlund et al. who teach a similar method of target detection comprising: labeling at least one target nucleic acid sequence; and detecting the labeled target nucleic acid and they specifically teach transcribing the target using a primer which anneals to a conserved region of DNA to transcribe a polymorphic region of DNA (Example 1, Column 9, line 50-Column 11, line 52). Additionally, Söderlund et al teach that because numerous inherited diseases are caused by polymorphisms, methods for detecting polymorphic regions is are clinically important (Column 1, lines 35-65). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the transcription of a polymorphic target region of Söderlund et al to the transcription of Weiss et al based on the clinical importance of polymorphisms as taught by Söderlund et al (Column 1, lines 35-65). Therefore, one skilled in the art would have been motivated to transcribe and detect polymorphic regions of DNA for the obvious benefits of diagnosing clinically important DNA sequences.

Alternatively, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the radioactive label and detection of Söderlund et al with the quantum dot labeling and detecting as taught by Weiss et al because it was well known in the art that radioactive labels are hazardous and short lived as taught by Chan et al (first paragraph). Chan et al also teach that quantum dot labeling solves these problems by providing safe and long life labels which are extremely sensitive and DNA-attachable (page

Art Unit: 1634

2016, first full paragraph). Therefore, It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to substitute the radioactive labels of Söderlund et al with the quantum dot labels of Weiss et al based on the teaching of Chan et al for the obvious benefits of safety, label life, sensitivity and biocompatibility (Chan et al, page 2016, first full paragraph).

Regarding Claim 5, Söderlund et al teach their similar method wherein the primers comprises a biotinylated primer thereby producing a biotinylated DNA (Column 9, line 55-Column 10, line 8).

Regarding Claim 6, Söderlund et al teach their similar method comprising binding the transcribed target to a substrate (Column 10, lines 32-51).

Regarding Claim 7, Söderlund et al teach their similar method wherein the substrate comprises a streptavidin coated surface (Column 10, lines 32-51).

Regarding Claim 8, Söderlund et al teach their similar method further comprising removing unbound portions of target sequence i.e. washing (Column 10, lines 32-51).

Regarding Claim 9, Weiss et al teach the method comprising probing the bound target using a sequence-tagged hybridization probe (Column 15, lines 45-60).

Regarding Claim 10, Söderlund et al teach their similar method wherein the target comprises DNA having at least one point mutation (i.e. apolipoprotein E) and the probing comprises binding the probe to the at least one point mutation (Column 1, line 66-Column 2, line 7 and Column 10, lines 54-67).

Regarding Claim 11, Söderlund et al teach their similar method wherein the target comprises wild type DNA and probing comprises binding the probe to the wild type DNA i.e. wild type and mutant targets are detected (Column 11, lines 25-38).

Regarding Claim 12, Weiss et al teach the method further comprising removing non-specifically bound probes (Claim 115).

Art Unit: 1634

Regarding Claim 13, Weiss et al teach the method wherein the quantum dot has an attached oligonucleotide tag and labeling comprises binding each tag with a complementary sequence of each sequence-tagged hybridization probe (Column 15, lines 45-64).

Regarding Claim 14, Weiss et al teach the method further comprising removing unbound quantum dots (Claim 115).

Regarding Claim 18, Söderlund et al teach a method of detecting the presence of a target nucleic acid in a sample comprising: transcribing a target nucleic acid using a primer that is complementary to a portion of said target and that comprises an immobilizable label to form an immobilizable target sequence; immobilizing said immobilizable target on a solid support to form an immobilized target sequence; probing said immobilized target sequence using a sequence-tagged hybridization probe which is complementary to a portion of said target sequence; labeling said immobilized sequence; and detecting the labeled immobilized target sequence to thereby detect the presence of said target (Example 1, Column 9, line 50-Column 11, line 52) wherein the detected label is a radioactive label (Column 11, lines 17-24) but they do not teach a quantum dot conjugate wherein the conjugate comprises a quantum dot and nucleic acid sequence complementary to a portion of a hybridization probe. However, Weiss et al teach a similar method wherein the detection of the target is via quantum dot conjugates. Specifically, Weiss et al teach transcribing a target sequence, probing using a sequence-tagged hybridization probe complementary to a portion of the target sequence; labeling the target sequence with a quantum dot conjugate comprising a quantum dot and a nucleic acid sequence complementary to a portion of the probe; and detecting fluorescence emitted by the quantum dot to indicate the presence of the target sequence (Column 15, line 22-Column 16, line 35) wherein the quantum dot complexes are stable under various environmental conditions and permit simultaneous or sequential detection of a large number of targets (Column 29, lines 42-57). it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the radioactive label and detection of Söderlund

Art Unit: 1634

et al with the quantum dot labeling and detecting as taught by Weiss et al because it was well known in the art that radioactive labels are hazardous and short lived as taught by Chan et al (first paragraph). Chan et al also teach that quantum dot labeling solves these problems by providing safe and long life labels which are extremely sensitive and DNA-attachable (page 2016, first full paragraph). Therefore, It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to substitute the radioactive labels of Söderlund et al with the quantum dot labels of Weiss et al based on the teaching of Chan et al for the obvious benefits of safety, label life, sensitivity and biocompatibility (Chan et al, page 2016, first full paragraph).

12. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weiss et al (U.S. Patent No. 6,207,392, filed 1 March 1999) and Söderlund et al (U.S. Patent No. 6,013,431, filed 2 December 1993) in view of Chan et al (Science, 25 September 1998, 281: 2016-2018) as applied to Claim 6 above and further in view of Bawandi et al (U.S. Patent No. 6,306,610 B1, filed 17 September 1999).

Regarding Claims 15 and 16, Weiss et al teach a method of detecting the presence of at least one target nucleic acid sequence (i.e. detectable substance) in a sample comprising: labeling at least one target nucleic acid sequence with at least one quantum dot; and detecting the labeled target nucleic acid by detecting fluorescence emitted by the quantum dot wherein detection of fluorescence in the sample indicates the presence of at least one target nucleic acid sequence, wherein the labeling is via bonding of the nucleic acid affinity molecule to its complementary sequence (Column 4, lines 27-47 and Claim 114) and further comprising transcribing the target nucleic acid sequence i.e. PCR (Column 25, line 62-Column 26, line 48)

Art Unit: 1634

wherein the quantum dot has an attached oligonucleotide tag and labeling comprises binding each tag with a complementary sequence of each sequence-tagged hybridization probe i.e. binding the oligonucleotide tag to a sequence to which the probe binds by complementation (Column 15, lines 45-64) but they do not specifically teach the transcribing provides a polymorphic region of DNA. However, transcribing a target sequence via PCR to produce polymorphic regions of DNA was well known and routinely practiced in the art at the time the claimed invention was made as taught by Söderlund et al. who teach a similar method of target detection comprising: labeling at least one target nucleic acid sequence; and detecting the labeled target nucleic acid and they specifically teach transcribing the target using a primer which anneals to a conserved region of DNA to transcribe a polymorphic region of DNA (Example 1, Column 9, line 50-Column 11, line 52) wherein the primers comprises a biotinylated primer thereby producing a biotinylated DNA (Column 9, line 55-Column 10, line 8) and binding the transcribed target to a substrate (Column 10, lines 32-51).

Additionally, Söderlund et al teach that because numerous inherited diseases are caused by polymorphisms, methods for detecting polymorphic regions is are clinically important (Column 1, lines 35-65). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the transcription of a polymorphic target region of Söderlund et al to the transcription of Weiss et al based on the clinical importance of polymorphisms as taught by Söderlund et al (Column 1, lines 35-65). Therefore, one skilled in the art would have been motivated to transcribe and detect polymorphic regions of DNA for the obvious benefits of diagnosing clinically important DNA sequences.

Alternatively, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the radioactive label and detection of Söderlund et al with the quantum dot labeling and detecting as taught by Weiss et al because it was well known in the art that radioactive labels are hazardous and short lived as taught by Chan et al

Art Unit: 1634

(first paragraph). Chan et al also teach that quantum dot labeling solves these problems by providing safe and long life labels which are extremely sensitive and DNA-attachable (page 2016, first full paragraph). Therefore, It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to substitute the radioactive labels of Söderlund et al with the quantum dot labels of Weiss et al based on the teaching of Chan et al for the obvious benefits of safety, label life, sensitivity and biocompatibility (Chan et al, page 2016, first full paragraph).

Weiss et al and Söderlund et al do not teach detecting comprises scanning the substrate with resolution capable of detecting fluorescence emitted by a single quantum dot (Claim 15) and they do not teach quantitating the target by counting the number of quantum dots within an area (Claim 16). However, Chan et al and Bawandi et al teach that single quantum dot complexes are detectable and countable (Chan, page 2018, middle column, last paragraph and Bawandi, Column 28, lines 11-24). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the single quantum dot detection and counting of Chan et al and Bawandi et al to the quantum dot detection of Weiss et al to thereby detect and count a single quantum dots for the obvious benefits of analyzing real-time *in situ* events as taught by Chan et al (page 2018, middle column, last paragraph).

Double Patenting

13. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground

Art Unit: 1634

provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

14. Claims 1-3 and 17 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3, 6, 10 and 11 of U.S. Patent No. 6,274,323 B1. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims are drawn to methods for detecting a target nucleic acid by detecting fluorescence emitted by a quantum dot and differ only in the patent claims recite additional method steps e.g. (b) combining with said sample a specific binding molecule. However, the instant claims recite "said method comprising" which encompasses the additional method steps of the patent claims. Additionally, while the instant claims do not recite the "combining" of patent step (b), the combining is inherent in the transcribing of instant claim 3. Therefore, the instantly claimed methods are obvious in view of the patent methods drawn to the species.

Conclusion

15. No claim is allowed.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BJ Forman whose telephone number is (703) 306-5878. The examiner can normally be reached on 6:30 TO 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jones can be reached on (703) 308-1152. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-4242 for regular communications and (703) 308-8724 for After Final communications.

Application/Control Number: 09/882,193

Page 15

Art Unit: 1634

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.



BJ Forman, Ph.D.
Patent Examiner
Art Unit: 1634
July 17, 2002